CLAIMS

1/ A method of manufacturing or building up, i.e. "overcladding", an optical fiber preform in an installation provided with means enabling a preform held horizontally at its ends between two mounting points by supporting end-pieces to be rotated axially and to be moved relatively in translation, said installation also being provided with heater means for heating the preform by means of a plasma torch, which heater means are disposed radially relative to said preform and are associated with material supply means, so as to enable the preform to be manufactured in successive passes corresponding to the preform and the torch being displaced relative to each other, with or without material being supplied, these displacements therefore leading either to a new layer of material being deposited on the preform, or to the most recent layer deposited being glazed, said method interposing a one-ended reduction in the length of at least one layer, during a pass and starting from one of the intermediate layers, while a succession of concentric layers of material are being deposited on the preform in a manner such that the respective lengths of the layers, which lengths are determined by the preform/torch relative displacements, are progressively shortened as a result of a progressive reduction in the lengths of the displacements, so that the thickness of deposited material that covers the preform and a portion of each of the end-pieces decreases uniformly towards the ends, said one-ended reduction in layer length leading to a limitation of the thickness of material deposited on one of the end-pieces and on a limited-length preform zone that is longitudinally adjacent to said end-piece, at the level set by the layer deposited immediately prior to said one-ended reduction.

2/ A method according to claim 1, wherein the one-ended reduction is performed after depositing a determined

number of concentric layers leading to a given preform diameter.

3/ A method according to claim 2, wherein the given preform diameter, above which a one-ended reduction in layer length is performed is greater than the diameter of the end-piece in question, and less than 70 millimeters.

4/ A method according to claim 1, wherein provision is made for the one-ended reduction in layer length to lie in the range 10 millimeters to 200 millimeters.

5/ A method according to claim 1, providing a reduction in layer length that satisfies a linear relationship, at least beyond the layer whose length is reduced at one end and that is deposited first, and at that end of the preform at which said reduction is provided.

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6/ A method according to claim 1, providing a reduction in layer ~~length~~ that satisfies a non-linear decreasing relationship, at ~~least~~ beyond the layer whose length is reduced at one end and that ~~is~~ deposited first, and at that end of the preform at which ~~said~~ reduction is provided.

7/ A method according to claim 1, including at least one hot drawing operation performed to separate a preform from one of the end-pieces in said limited-length preform zone which is adjacent to said end-piece, after said succession of layers required for forming the preform has been deposited.

8/ A method according to claim 1, including a hot-drawing operation performed in two steps, separated by a preform glazing operation, in said limited-length preform zone which is adjacent to an end-piece so as to separate the preform and said end-piece, the first drawing step being

associated with heating to the core causing softening by melting in said limited-length preform zone, and producing a reduction in diameter, the second step also being associated with heating to the core causing softening by melting and achieving full separation.

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